



July

1997

USE OF LASER RANGEFINDER

by Fred Rogers, Technology Development Coordinator

Recently (May & June 1997), the Western Federal Lands Highway Division (WFLHD) used a laser rangefinder to help obtain measurements of storm damage to U.S. Forest Service Roads under the ERFO (Emergency Relief for Federally Owned Lands) Program. Although this technology has been used by others outside WFLHD, the technology was new to our office.

In order to prepare damage assessment reports, it is important to estimate the extent of damage and estimate necessary repairs. Usually, we estimate horizontal and vertical distances visually or by tape and we also pace horizontal distances. The use of laser technology greatly speeds up the process and improves accuracy. Such a device can provide consistent results rather than vary according to the experience and ability of those doing the estimating. Another advantage is that the device can be set up for either English or metric units and vertical degrees or percent slope or grads.

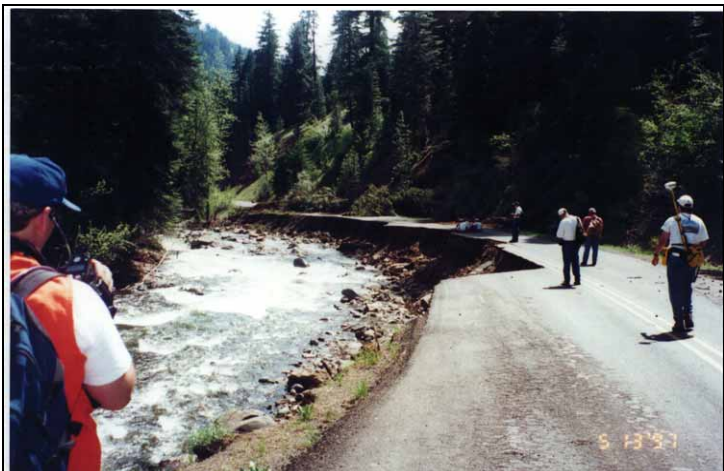
We decided to rent a laser rangefinder to test on some ERFO storm damage sites in the Wallowa-Whitman National Forest in Oregon and the Payette National Forest in Idaho. The laser range finder is a hand-held unit weighing just 1 kg. (2.2 lb.) and is powered by two AA batteries with an approximate life of 20 hours. This point and shoot device is usable with either hand, convenient, and quick and accurate, making it ideal for this type of work. One lens sends out infrared laser signals to a target (a rock, tree, ground, person, etc.) and the other lens receives signals back and sends info to the instrument's internal circuitry. Buttons on the unit control the Liquid Crystal Display screen and other functions. There is also a serial port connector if you wish to connect to a data collector or notebook computer.



Federal Highway Administration



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Partially eroded road and small landslide - North Pine Creek Road. Rich Barrows, WFLHD, on left using laser range finder for depth measurement. Brent Coe, WFLHD, on right carrying GPS unit.

Brent Coe, ERFO Team Engineer, rented a unit and was pleased with the results on the North Pine Creek Road in the Wallowa-Whitman National Forest. This involved one long day of hiking a 16-kilometer (10-mile) section of the road with the U.S. Forest Service and WFLHD field review team and measuring about 50 damage sites. Most of the measurements were the length and depth of an eroded or a partially eroded road due to a wayward creek or occasional landslide. In addition, a Global Positioning System (GPS) unit was used to locate each site. Based on measurements, positions, photographs, and field notes, a contract was drawn up and advertised in record time to help meet the Forest Service's desire to open their main tourist and through route.

I later rented a laser rangefinder for use on damage assessments in the Payette National Forest. It was extremely helpful to me since the Forest required metric units and I easily set the device to read metrically directly. Pacing and tape measurement confirmed the accuracy of the range-finder. I recommended that the ERFO Team and the Survey Section buy a device for their use since it would increase efficiency for many projects. The Forest also indicated that they would like to obtain a unit in the future.

Technology Development Access to TRIS

by Cal Frobeg, Technology Leader

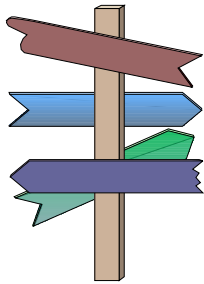
The Technology Development Team has established access to the Transportation Research Information Service (TRIS), operated by the Transportation Research Board of the National Academy of Science. The TRIS is an extensive repository of published and unpublished transportation research reports. We access TRIS through the Transportation Computer Center (TCC) mainframe computer for the Department of Transportation. This provides us with access to abstracts of all research reports available, not just the Research In Progress currently available free on the Internet. This is a subscription service which others pay to access.

We can search for information on specific subjects using key words to produce a list of abstracts from which selected reports can be read, or printed to a local printer. Key words are a significant tool to access reports on subjects when the report titles are unknown, which is most often the case. If the title or authors are known the reports can usually be accessed directly.

We have experienced success with a few searches, finding the desired information using key words to create a list of possible reports and having the requesting person select abstracts from that list. We have learned that the key words are critical to the search to successfully generate titles with useful information.

Any WFLHD staff needing information on a specific transportation subject and wanting to find available research reports, please contact Brad Roberts at 360-696-7777; or e-mail broberts@wfl.fha.dot.gov; or stop by his desk with your request.

ROAD SIGNS



As the old man walked down a Spanish beach at dawn, he saw ahead of him what he thought to be a dancer. The young man was running across the sand, rhythmically bending down to pick up a stranded starfish and throw it far into the sea. The old man gazed in wonder as the young soul again and again threw the small starfish from the sand to the water. The old man approached him and asked why he spent so much energy doing what seemed a wasted of time. The young man explained that the stranded starfish would die if left until the morning sun.

“But there must be thousands of miles of beach and millions of starfish. How can your effort make any difference?”

The young man looked down at the small starfish in his hand and as he threw it to safety in the sea said “It makes a difference to this one.”

Please send all submissions to Kristi Swisher - (360.696.7572). Be sure your name, title, and phone number are the way you want them to appear in the article. Articles are subject to editor/ layout approval and may be condensed if space is limited.

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